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YOUNG RED-TAILED HAWKS FULLY FLEDGED, MAY 24TH

Photographed by Herman T. Bohlman

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Photographing the Aerie of a Western Red-tail

BY WILLIAM LOVELL FINLEY

ILLUSTRATED BY HERMAN T. BOHLMAN

IF there is another red-tail in the county that has found a nesting site higher than the one in the cottonwood over the bank of the Columbia river, we have never seen it. A red-tail likes a high commanding site just as a mallard searches the sedge grass about the pond for a home. This pair of hawks surely found it. We would never have discovered the aerie, had we not searched the bottom when the trees were leafless.

Finding a red-tail's nest is very different in Oregon from what it is in California. You may look through the forest of tall firs till you are blind, or search the river bottoms for miles and not find the trace of a nest. But it seems that every little canyon of the California hills has its red-tail, and all you have to do to find a nest is to sit at the outlet and scan the trees with your field glass.

We have found few nests that are absolutely beyond human touch, but it has taken a deal of



PHOTOGRAPHER AT WORK, 120 FT. FROM THE GROUND

scheming and a risk of life and limb to reach some of them. We schemed for three different summers after we found this aerie of the red-tail before we finally succeeded in leveling our camera at the eggs. The nest-tree measured over fourteen feet around at the bottom. There was not a limb for forty feet. The nest itself was lodged just one hundred and twenty feet up. It was out of the question to clamber up such a tree with climbers, ropes, or anything else, but we had another plan.

We had spotted a young cottonwood just fifteen feet away. This might serve as a ladder so we chopped at the base till it began to totter. With ropes we pulled it over. The crown lodged in the branches of the first large limb of the nest-tree full forty feet up. This formed a shaky aerial bridge, up which we clambered a third of a distance to the nest. The anticipation led us on. We lassoed upper branches, dug our climbing-irons into the bark and worked slowly up.

We found a stack of sticks the size of a small haycock. They were not pitched together helter-skelter. A big nest like a hawk's or heron's always gives me the impression that it is easily thrown together. I examined this one and found it as carefully woven as a wicker basket. It was strong at every point. Sticks over a yard in length and some as big as your wrist were all worked into a compact mass. In the hollowed top on some bark and leaves lay the two eggs.

I never saw a more commanding stronghold. It over looked the country for miles in every direction. From where the hawk-mother brooded her eggs I looked out far up the Columbia, and I



POSITION OF NEST, SHOWING OPPOSITE LIMB FROM WHICH
PHOTOGRAPHER WORKED



APRIL 15TH, THE TWO EGGS

could see the cavern-cut slopes of Mt. Hood. Extending to the westward, was the long line of ponds and lakes, the redbill's favorite hunting ground, while to the north lay the broad expanse of water and in the distance loomed up the dome-like peak of St. Helens, covered with perpetual snow.



YOUNG IN DOWNY STATE, MAY 3RD

How could we ever secure a good series of pictures at such a distance from the ground? It looked impossible at first, but a careful examination revealed a rare arrangement of nests and surroundings. If we could but hoist our equipment there was no question as to photographs. Eight feet below the aerie the trunk of the tree branched and spread in such a way that we could climb to a point just above the nest on the opposite limb. We strapped the camera in a crotch that seemed built for the purpose, with the sun coming from the right direction. The rub came in focusing the instrument. One hundred and twenty feet is not such a dizzy height when you stand on the ground and look up, but strap yourself to the limb of a tree and dangle out backward over the brink. No matter how strong the

rope, there's a feeling of death creeping up and down every nerve in your body the first time you try it.

The eggs of some hawks differ widely in marking, but the two we found in the cottonwood year after year were always of a bluish white tint, with pale lavender shell markings. The mother cradles her two eggs just about the first of April before the first buds begin to swell on the cottonwoods. The spring of 1902 the young birds hatched on April 20th. The picture of the birds in down was taken on May third. The third photograph was taken on May 18th, when the heads were still covered with downy white but the bodies were well feathered out. The fourth picture of the series was taken on May 24th when the young were almost full grown (frontispiece). On the first day of June both the young hawks left the nest. This makes the period almost two months to the day from the time the eggs are laid till the youngsters make their debut in-



AT THE BASE OF THE HAWK TREE

to the world.

We made a close study of the red-tail's home in the tall cottonwood. He was always a successful hunter. In all our visits we never saw the time when his larder was empty. Nor did we find that we had to resort to the chicken yard for food. There was plenty of wild game. On the first visits we found the remains of quail and pheasants in the aerie. One morning we saw the mangled body of a screech owl; almost a case of hawk eat hawk. Later in the season when the banks of the Columbia overflowed, and covered most of the surrounding country, the old hawk did not abandon his own preserve. He turned his attention entirely to fishing. Where

the carp and catfish fed about the edges of the ponds he had no trouble in catching plenty to eat. Twice we found carp over a foot in length in the aerie. On our last visit we picked up the head bones of seven catfish in the nest.

The wild life of the red-tail fascinates me. He has an individuality that is as interesting as a person. He has a character as clearly marked as in any feathered creature I ever studied. The bleak winter winds that sweep the valley of the Columbia and drive the other birds to the southland, never bother him. This is his permanent home. *He is not a vagabond. He is local in attachments and habits.*



MAY 18TH. PARTLY FEATHERED

This is his hunting ground. He won it by years of defence. He beats over the field and along the edge of the woods as regularly as the fishman casts his net. He has his favorite perch. He watches the pond as closely for carp as the farmer watches his orchard. His routine of life is as marked as any inhabitant along the river. Nor can I believe he is lacking in the sentiment of home. He adds sticks to his house and enlarges it year by year. Who can say that the old aerie is not fraught with many hawk memories of the past? ^a

Portland, Oregon.

^a The photographs which illustrate this article are protected by copyright. The hawk here referred to is *Buteo borealis calurus*.

An Untenable Theory of Bird Migration

BY WELLS W. COOKE

SOME years ago Palmen advanced his theories of bird migration, which have not received much support among American ornithologists. One phase of his belief was favorably commented upon by a scientist in this country and has lately been brought so prominently into notice that a few words in regard to it at this time seem advisable, before the error makes further headway.

Palmen's theory has been stated as follows: "The annual migration route of a species indicates the way by which it originally immigrated into its present breeding home."^a

A few months ago Mr. C. C. Adams, of the University of Michigan, used this theory to explain the migration route of the Kirtland warbler (*Dendroica kirtlandi*).^b In conversation with Mr. Adams I told him that I did not believe that theory was correct and he said he hoped I would write out its refutation.

At the outset one is met by the fact that several species have different migration routes spring and fall. The Connecticut warbler (*Geothlypis agilis*) is one of the best known examples among land birds and the golden plover (*Charadrius dominicus*) among the water birds. Evidently both routes cannot be the original path of immigration and the theory will not hold for such species.

The species Mr. Adams selects, the prothonotary warbler (*Protonotaria citrea*), is probably as good as any one that could be chosen to show the strong points in the belief. According to the theory, the prothonotary warblers of the Mississippi Valley spread northward following the retreating ice of the Glacial Period, and gradually worked up the river bottom, following the lead of the swampy bottom lands that form their natural home. Now year by year they follow back and forth over these river courses that marked their original entry into the country. However plausible this may seem to one who looks at the map of the Mississippi Valley and notes how the whole great river system seems especially adapted for a natural highway of bird migration, yet the argument fails when it attempts to answer the question: how did the birds originally get to the mouth of the Mississippi River to begin their extension up its watershed? It happens to be known that the prothonotary warblers of the Mississippi Valley pass neither to the west along the coast of Texas, nor to the east through Florida, but on arriving at the coast they make a flight across the Gulf of Mexico, here nearly at the widest.

To my mind it seems an impossibility that any land bird should voluntarily take a flight across water for an unseen shore, unless it had previously learned the route by a gradual extension from a shorter flight, or was in company with some bird who had so learned it. Two suppositions are possible. First, that formerly a chain of islands extended across the Gulf of Mexico, and that the birds having learned the way from southern Mexico to the United States, by way of these islands, continue to travel the same route after the islands have disappeared. Against this supposition is the fact that the Gulf of Mexico off the mouth of the Mississippi River is a vast abyss, with no indication that any of its central portion has been above water since bird life appeared on the earth. This first supposition then may be considered not available as an explanation of the manner in which the birds learned their course across the Gulf of Mexico. Recourse must be

^a Stejneger, American Naturalist, XXXIII, 1899, p. 68.

^b Bull. Mich. Orn. Club, V, 1904, pp. 14-21.

had, therefore, to the second supposition which is that the birds learned this course gradually by an extension of a shorter course.

It is known that at one time the Gulf of Mexico extended north approximately to what is now the mouth of the Ohio River. It is a fair presumption that at this time migrants passed by land from Mexico through what is now Texas to their summer homes in the Mississippi Valley. This course would be but little longer than the direct course across the Gulf. As time passed and the land began to appear to the south of the mouth of the Ohio, the bird's route would turn more and more to the east in northern Texas, while at the same time it is probable that the climatic conditions in southern Texas and northwestern Mexico became less favorable to the support of a large population of forest loving birds. These two causes together probably induced the birds at first to follow close along the Texas coast to shorten the distance and obtain food; later to make short flights over the water, near to the shore, and still later to lengthen these flights, carrying the path of the flight continually to the eastward, until finally they adopted their present route across the full width of the Gulf of Mexico.

It is believed by some that many of the birds of the eastern United States reached their present breeding grounds by way of a former extension of Honduras toward Cuba, and thence across that island to the Bahamas and Florida. The argument is just the same whether it is supposed the route began in Texas and moved eastward or commenced in Cuba and moved westward. In either case the migration route now used does not indicate the way by which the species "originally immigrated into its present breeding home."

Washington, D. C.

Old Fort Tejon

BY JOSEPH GRINNELL

SCARCELY any locality in California could be named which would fail to afford at least a modicum of interest to the nature student. Yet Old Fort Tejon possesses an added attraction due to its position in the early history of California and its zoology, which cannot fail to continually draw more explorers in its direction in the future.

Fort Tejon lies in a well watered valley which leads down from Tejon Pass towards the San Joaquin Valley. This Pass is the lowest one of the southern Sierras, 4200 feet, and was the one selected by the forty-niners who entered California by the way of the Mojave Desert. The Pass itself is in the extreme northwestern corner of Los Angeles county, but Fort Tejon, five miles north, is beyond the boundry, in Kern county, and about a thousand feet lower. The old immigrant trail still shows in places, but is now for the most part replaced by the well graded State road which leads up from Antelope Valley (the extreme westward arm of the Mojave Desert) over Tejon Pass, down the valley and past Castac Lake (now dry) and Fort Tejon, and on down the steep and narrow Cañada de las Uvas out into the San Joaquin Valley by the way of Rose's Station to Bakersfield.

They tell us that the military post was established at this point about 1850 in order to furnish protection to the immigrants through the mountains which were at that time infested with bands of Mexican bandits and renegade Indians. The ruins of the Fort buildings cover considerable ground, and point to the great im-

portance of the place. This importance, however, lasted but a few years, and was followed by complete abandonment. The roofs have been removed from most of the buildings with the result that a few winters' rains reduce the adobe walls to low mounds of earth, in many places scarcely distinguishable from the surrounding ground. Earthquakes have also helped in this leveling process which will at the present rate before long result in the total obliteration of this, one of California's most interesting land marks. The site is now owned privately and is part of the 25,000-acre Tejon Rancho which is devoted to cattle raising.

My assistant, Joseph Dixon, and myself arrived by wagon with our collecting outfit on the 19th of July, and were fortunate in obtaining prompt permission from the major-domo of that part of the rancho to camp right at the Fort which is a quarter of a mile off the main road. For the whole country is fenced, and hunters and campers kept out for fear of starting fires or disturbing the stock.

One of the Spanish vaqueros lives with his family in the best preserved of the adobe buildings, and I believe I never met a more hospitable gentlemen anywhere, and this was surely welcome. He helped us to locate on the best camping ground near a clear, cool spring, turned our horse into the best pasture close at hand, and gave us many a pointer as to the whereabouts of the different animals we were after. We set up our skinning-table under an immense white oak, said to be the largest in California. It was 27 feet in circumference at the base, and was only one of many others nearly as large which form a group in front of the rectangle formed by the Fort ruins. In fact the most impressive feature of the Tejon valley to one entering from the dry barren plains on either side, are the magnificent oak groves, interspersed with green pastures. What an oasis this must have looked to the early traveler who had gotten safely this far after his perilous journey across the desert. Many springs contribute to a fair-sized brook, which, lined with immense willows and lofty maples festooned with grapevines, takes its tumultuous way down the narrow gorge below the Fort to the San Joaquin Valley. The hillsides were at the date of our visit brown with a heavy clothing of dry grass, while the northerly slopes were covered with clumps of horse-chestnut (*Æsculus*), the first to be met with towards the north.

As the reader will have already suspected, such a region fairly swarms with animal life, as compared with the usual desert or semi-desert of southern California. Insects were abundant, and insectivorous birds and mammals were correspondingly numerous. I have never anywhere seen such great numbers of bats as made their appearance at early dusk. They made their way in veritable streams out of the attics of buildings, hollows of trees, and even crevices in the adobe walls. The mellow notes of poor-wills were to be heard of evenings, while by day troops of violet-green swallows skimmed back and forth over the meadows. A few western martins had nests safely ensconced in holes of lofty oaks.

From the dense green foliage of maples and willows came the melodious songs of the Cassin and warbling vireos. Western kingbirds were plentiful, and from their perches in the more open places assailed any whose intent might be suspected. The old government rain gauge out in the middle of the long-forsaken parade ground had evidently been a favorite perch for many a year, for it was almost completely filled with excrement. Traill flycatchers were exceptionally abundant in shaded places, and several of their nests were discovered in gooseberry bushes two to five feet above the ground. Black phoebes fluttered about the crumbled walls, while a family of young wood pewees was noted daily lined up on a barbed-wire fence, getting pointers from their elders on how to catch bees without getting stung.

Among the finch family, lark sparrows were the most plentiful. Scattered flocks, often mixed with bluebirds and linnets, were continually flushed from the road-side through the dryer portions of the valley. About a tulé-bordered pond were a number of song sparrows, which I was anxious to secure, because one of the subspecies was described from here. But the sparrows refused to be enticed into the open by any variety of curiosity-arousing squeaks we could produce. Most of the specimens finally procured came incidentally by way of our small mammal traps set for voles and harvest-mice and baited with rolled oats. A grosbeak and towhee also fell victims to these indiscriminating contrivances.

Of all the birds of the neighborhood, the most insistent upon our attention were the California woodpeckers. The oaks furnish these droll birds with a generous livelihood, so they seem to have plenty of time for all sorts of nonsensical performances. Their medley of quavering nasal notes echoed among the oaks from daylight till dark. Sometimes a "carpintero," as the vaqueros call this bird, would repair to the roof which yet remains on one of the large barracks and now used to shelter the hay crop, and selecting a loose shake, would pound on it for a half hour at a time, making as much noise as a lather, and evidently enjoying it. The wood-work under the eaves and around the doors and windows, which we were told had been shipped to California around the Horn, was perforated with holes made by the woodpeckers to fit the white-oak acorns. In some places the boards were quite symmetrically inlaid with acorns, just as the old doors were studded with wrought nails.

Near the skinning-table was a baling-wire line stretched between two trees. On this the vaqueros had hung out a batch of meat in strips to dry. Most of this had been gathered in; but a few strands of beef suet still depended from the wire, and to this woodpeckers and slender-billed nuthatches made many visits each day. They would either perch on the line or cling to the strips to peck off bits of the fat of which they seemed very fond. It was seldom that two woodpeckers remained peaceably feeding together very long at a time. One or the other would be driven off after much dodging and scolding. But it was no unusual thing to see a nuthatch and a woodpecker industriously pecking away at the same piece of jerky, apparently taking little notice of each other.

From the grassy stretches high on the canyon sides could now and then be heard the wierd notes of the rufous-crowned sparrow, contrasted with the more sprightly song of the least vireo from the poison-oak clumps nearby. Outcroppings of rock on the hillsides below the Fort afforded congenial homes for the canyon and rock wrens, full-grown young of which were common. A surprise was afforded in the presence of the Sierra creeper, numbers of which were to be seen and heard in company with plain titmouses and nuthatches in a particularly dense grove of oaks below the Fort. Their faint wiry "tee, tee, te-deedle-de wee" reminded us of the conifers of a higher zone.

Ravens often flew by overhead in pairs, heads on one side, and croaking warily. One afternoon a flock of fully fifty convened on a neighboring hilltop. After an hour's parleying and restless moving about, the whole band took flight circled upwards awhile, and then started off east on a bee-line, doubtless with intent to visit either the almond orchards or grasshoppery fields of Antelope Valley. Dixon discovered a number of ravens quietly bathing in a willow-skirted pond, and succeeded in crawling within range unnoticed. As a result, the peaceful ablutions were interrupted, and a pair of these tantalizingly shy birds found their way into the collecting-chest.

As is usual on stock ranges turkey buzzards were numerous; and the vaqueros

maintained that condors, or "wietros" as they called them, are fairly common in the vicinity. We saw two condors circling above a carcass, and forthwith set out several steel traps around it, with hopes that almost amounted to certainty of securing one of the big birds within a day or two. But calves presumably walked into the traps and walked off with them before the vultures returned, if the latter did come back at all. The vaquero living at the Fort, declared that he often saw "wietros" bathe by dipping their heads into the long low watering-troughs, as the birds flew slowly past!

Mourning doves were to be seen by hundreds, but valley quail were sparsely represented in the region. A family of six Cooper hawks were dealing relentlessly with the smaller birds of the vicinity. We caught them in pursuit of grosbeaks and linnets. A righteous satisfaction gradually grew within ourselves the while we "collected" the hawks one by one from day to day. We felt as if we were atoning for the songsters we killed ourselves. The few red-tailed hawks around evidently contented themselves with ground squirrels of which there was surely a plenteous supply.

It is from a historical standpoint that Fort Tejon appeals to one with peculiar interest. During the Pacific Railway Surveys in the 50's, that greatest western field naturalist of those times, John Xantus de Vesey, was located here for a time, and he sent to the Smithsonian Institution large collections of animals. The birds were many of them recorded by Baird in 1858 in Volume IX of the Pacific Railway Reports. But in July, 1856, Xantus published in the Proceedings of the Academy of Natural Sciences of Philadelphia a complete list of 144 species of birds which he had actually obtained "in the vicinity of Fort Tejon." It is very evident from a perusal of this article, which is merely a bare list of names, that his collecting had extended through the whole year, for it includes both summer and winter visitants and transients as well as permanent residents. Unfortunately Xantus failed to record the dates of capture for most if not all of his specimens; and also species are included which were very likely not taken within many miles of the Fort and whose precise locality therefore must always be in doubt. This is also true of other animals than birds; for example the type of a lizard (*Xantusia vigilis*) is given as "Fort Tejon." This animal is abundant in the tree yucca belt of the Mojave Desert. It strikes me as extremely probable that the type specimen really came from there, not nearer than sixteen miles from Fort Tejon, and in an altogether different faunal area. Furthermore the tree yucca itself has been ascribed to Fort Tejon, but I am very sure it does not actually occur within sixteen miles; not so very far on the map, but a very long way off, faunally. Also the "pinyon and sage brush belt" does not include Fort Tejon as has been more recently averred, but begins at least four miles south and at a higher elevation, a big jump faunally. The abrupt changes in fauna and flora that take place within a very short distance from the coast slope and valleys towards the interior, are amazing, and to be comprehended must be actually seen and studied. The value of precise locality on labels, which was not recognized in early days, must now be considered of almost as much importance as the specimens themselves.

The Xantus collection of birds from "Fort Tejon" afforded the types of several new species. Xantus himself described the spotted owl, Hammond flycatcher, and Cassin vireo; and Baird described as new the spurred towhee, thick-billed sparrow, and Heermann song sparrow. Besides Xantus, Lieutenant Williamson also collected at about the same time through "Tejon Valley." In the 70's H. W. Henshaw visited the locality, and in 1891 members of the Death Valley Expedition passed through the region, making observations on birds which were published

in "North American Fauna No. 7." As is evident, probably no other one interior locality has already received so much attention from Naturalists, and yet much new and valuable data doubtless await the future explorer of this locality, still far from the influences of cultivation and the railroad.

The following is a list of the birds detected during my brief visit, July 19 to 26, 1904, within two miles up and down the valley from Fort Tejon:

- | | |
|--|--|
| - <i>Lophortyx californicus vallicolus</i> | - <i>Astragalinus psaltria hesperophilus</i> |
| <i>Zenaidura macroura</i> | - <i>Astragalinus lawrencei</i> |
| - <i>Gymnogyps californianus</i> | <i>Chondestes grammacus strigatus</i> |
| <i>Cathartes aura</i> | - <i>Aimophila ruficeps</i> |
| <i>Accipiter cooperi</i> | - <i>Melospiza cinerea heermanni</i> |
| <i>Buteo borealis calurus</i> | - <i>Pipilo maculatus megalonyx</i> |
| <i>Falco sparverius phalaena</i> | - <i>Pipilo fuscus crissalis</i> |
| <i>Strix pratincta</i> | - <i>Zamelodia melanocephala capitalis</i> |
| - <i>Megascops asio bendirei</i> | <i>Guiraca caerulea lazula</i> |
| - <i>Bubo virginianus pacificus</i> | <i>Cyanospiza amœna</i> |
| - <i>Dryobates villosus hyloscopus</i> | <i>Progne subis hesperia</i> |
| - <i>Dryobates pubescens turati</i> | <i>Tachycineta thalassina lepida</i> |
| - <i>Dryobates nuttalli</i> | <i>Vireo gilvus swainsoni</i> |
| <i>Melanerpes formicivorus bairdi</i> | <i>Vireo solitarius cassini</i> |
| <i>Colaptes cafer collaris</i> | - <i>Vireo pusillus albatu</i> |
| - <i>Phalænoptilus nuttalli californicus</i> | - <i>Dendroica æstiva brewsteri</i> |
| <i>Calypte anna</i> | + <i>Toxostoma redivivum pasadenense</i> |
| <i>Tyrannus verticalis</i> | <i>Salpinctes obsoletus</i> |
| <i>Myiarchus cinerascens</i> | <i>Catherpes mexicanus punctulatus</i> |
| <i>Sayornis nigricans</i> | <i>Troglodytes aedon parkmani</i> |
| <i>Contopus richardsoni</i> | - <i>Certhia americana zelotes</i> |
| <i>Empidonax traillii</i> | <i>Sitta carolinensis aculeata</i> |
| <i>Aphelocoma californica</i> | - <i>Bæolophus inornatus</i> |
| <i>Corvus corax sinuatus</i> | - <i>Chamæa fasciata</i> |
| <i>Icterus bullocki</i> | <i>Psaltiriparus minimus</i> |
| <i>Euphagus cyanocephalus</i> | <i>Poliophtila caerulea obscura</i> |
| <i>Carpodacus mexicanus frontalis</i> | <i>Sialia mexicana occidentalis</i> |

Some Bird Notes from the Central Sierras

BY CHARLES R. KEYES

DURING the late spring and early summer of 1903 a small party, including the writer, tramped with pack animals from Sonora to Lake Tahoe, thus passing through the central heavily timbered portion of the Sierra Nevada mountains. We left Sonora on May 27, crossed the north fork of the Stanislaus river at Robinson's Ferry and thence made a leisurely trip by the old Big Trees—Carson Valley stage road along the north bank of this river, the route taking us through the Calaveras grove of sequoias, through Bear Valley and through the beautiful chain of mountain meadows called Charity, Faith, and Hope Valleys. From the latter we left the old time stage road, now frequented by few except passing sheep and cattle men, and, turning northward through Luther's Pass, soon descended into Lake Valley and finally concluded our itinerary, so far as

tramping was concerned, on July 5th at Tallac on the southern shore of Lake Tahoe. Including numerous side trips, such as those to South Calaveras Grove, to various lakes about Glen Alpine, and finally the ascent of Mt. Tallac, we tramped about two hundred miles, at no time meeting with hardships and at all times surrounded by a nature surpassingly beautiful in its combination and succession of forest and meadow and mountain.

Notes were made on the birds seen throughout the trip and the opportunities for such study proved to be far richer than had been expected. The alleged "scarcity of birds in the High Sierras" could not at no time be a subject of reasonable complaint. Probably birds were not so abundant as in the plains and foothills of the lower altitudes, but one was seldom indeed removed from the sight of fitting forms and almost never from the sound of bird voices. The loud "querk" of the plumed partridge, the joyous quavers of the ruby-crowned kinglet and the seriously dignified song of the white-crowned sparrow were constantly in one's ears during the days spent in the higher altitudes and the last named songster at least often continued his efforts until well into the night, when sleep had overcome one's powers to observe and note.

In a previous number of THE CONDOR Mr. Barlow contributed his very thorough observations on the birds of the Placerville-Lake Tahoe stage road, a region lying mostly along the course of the American River to the north of the territory covered by our party and joining the region of our observations at Lake Tahoe. So far as the mere occurrence of species is concerned lists of birds found along the route studied by Mr. Barlow and on the one taken by us would differ but little, the faunal conditions evidently being very similar. About all I can hope to add in the way of notes from this region therefore will concern those species which accident or unusual opportunity allowed me to observe with special success. I should say farther that in writing these notes I have kept in mind Mr. Belding's accounts of the same species in his very valuable "Land Birds of the Pacific District." Mr. Belding has covered at different times a considerable part of the very ground which it was my privilege to tread, my most interesting days with the birds being on what is apparently familiar and favorite ground to him, viz., Bear Valley in Alpine county. I should like to say parenthetically that Mr. Blood, who last year completed his fortieth and, as he said, last year in charge of the toll and ranch in this mountain meadow, always spoke with unusual enthusiasm of the days when Mr. Belding came to hunt and study in this favored spot. It caused one to regret the fact that to many of us a personal acquaintance with our esteemed honorary member has not been possible. In the following notes I shall venture a few observations on nine species of land birds only, namely, the plumed partridge, Wright flycatcher, white-crowned sparrow, Lincoln sparrow, thick-billed sparrow, tree swallow, phainopepla, pileolated warbler, and mountain chickadee.

The plumed partridge (*Oreortyx pictus plumiferus*) had already assumed nuptial cares apparently when we first reached its breeding range on June 1, a short distance below Avery at an altitude of 3000 feet. From here on to the end of the trip it was no uncommon sight to see a pair of these birds walking sedately along the road or across a forest opening, the male leading with plumes erect and the female walking close behind. As I afterward learned this was usually an indication of an incompleting set of eggs in the near vicinity. At Bear Valley elevation 7015 feet, three occupied nests were found and two nests of the preceding year. A sixth occupied nest was found on Mt. Tallac. Eyesight alone was depended on to reveal a nest after having decided upon the approximate location from hearing the whistle of the male or seeing the pair walking about as mentioned. The nests

were all on the ground and, while always more or less concealed, yet it seemed to me that the rich buff-colored eggs were rather conspicuous objects. A single egg was first discovered on June 12 in a battered old nest of 1902, or possibly even an earlier date. The egg was a dried up specimen of chalky appearance, which had lost its original color and lustre, having lain under many feet of snow for one winter at least. The nest still showed a slight concavity, being protected under the outer edge of a mass of deer brush (*Ceanothus velutinus*). On June 13 a nest full of egg-shells was found neatly tucked away along the northwest side of a small boulder and partly concealed by dwarf manzanita. The shells seemed to represent about eight eggs and still possessed their color and lustre to a remarkable degree. Evidently, however, these too had passed through a winter, for the snow had only recently disappeared from this locality and indeed still existed in isolated drifts of considerable magnitude. Acting on this clue I found two days later, June 15, a nest with seven eggs in a precisely similar situation and partly concealed by the same kind of dwarf manzanita sprays. It was composed of pine needles and was eight inches in diameter and three inches deep in the center. This nest was carefully observed during the remainder of our stay at Blood's, or until June 21. On the 17th eight eggs were in the nest and another was laid on the 19th, apparently during the early morning. At eleven o'clock a. m. on the 20th, the nest still contained nine eggs but before one o'clock of the same day a tenth had been added. The female was on the nest at 10 a. m. the following day but I approached her too closely and she left the nest without having laid another egg. Whether she would have done so I did not determine, not caring to collect the bird and this being the last day of our stay at Blood's. My fourth nest was also found on June 15, and like the other contained seven eggs. It was in rather an open situation under a Murray pine and five feet away from the trunk, was composed entirely of pine needles and measured nine inches in diameter and three inches in depth. Like the two last it was partially concealed by low sprigs of manzanita. Eight eggs were in the nest when visited the next day, the 16th, nine were found on the 18th, ten on the 20th and eleven on the 21st. These two cases then are not in agreement with Major Bendire's statement that "an egg is laid daily until the set is complete."^a The fifth nest was found on June 20 by tramping through deer brush near the place where a male had been heard calling for several days. It was the best concealed of any, being under quite a thick mass of ceanothus, though I hardly think I should have overlooked it, even though the female had not flushed with a great whirr of wings when I was three or four feet away from her. The nest was quite well constructed of coarse dry grass, a few small twigs, and many breast feathers from the bird. The measurements were the same as those of the last nest described and the eggs were twenty-two in number, laid in two layers, the lower of nineteen eggs with three on top in the center. The set was probably complete, as the bird was again flushed from the nest after an hour or two, though the eggs showed no entirely positive trace of incubation. The question naturally arises in case of a set of this size whether it might have been the joint product of two females. I could not decide this point and the eggs themselves did not make the matter clear. Both long ovate and short ovate forms were in the nest but there were also intermediates and the color tones showed but little variation. I might say in this connection that before I discovered this nest I was drawn away in the opposite direction for a considerable distance by a clucking sound which certainly came from a plumed quail. It was impossible to see the bird, however,

^a Bendire's Life Histories of N. A. Birds, Vol. I, p. 16.

from the thickness of the brush, and finally I interpreted it as the ruse of the male to decoy me from the nest and so began to hunt in the other direction. If it could be shown that the male bird never clucks then some further light might possibly be shed on the question of the origin of this nestful of eggs. I am uninformed on this point. The sixth nest was found July 2 many miles from Blood's on the slope of Mt. Tallac, close to where the trail sends off a branch to Susie Lake, the elevation being about 8000 feet. The nest was under a dwarf laurel bush, was six and a half inches in diameter by two and a half inches deep, composed of a few twigs, pine needles and laurel leaves, and contained nine eggs. The bird was not to be seen at this time but was sitting on her eggs the next day at noon, when I watched her for some time. A tenth egg had been added. From the foregoing it certainly appears, as Mr. Belding says, that the plumed quail does not desert her nest for slight cause. All of the occupied nests were visited and examined more than once and two of them at frequent intervals for a week without disturbing the owners' intentions in the least.

The dainty little Wright flycatcher (*Empidonax wrighti*) was observed only once when a nest, containing four fresh eggs on which the parent was sitting, was discovered in Bear Valley on June 20. This was placed in the forks of a small dead branch of a living ceanothus two feet above the ground. It measured three inches in diameter outwardly and the same in depth. The outer material was soft gray bark strips and the inner part was composed of fine brown bark fibers, hair, wool, and seven small gray feathers. The eggs were immaculate and pure white with but little gloss. A second nest of practically the same description and situated in the same manner, except that the branch was alive throughout, was found on this same day and probably belonged to the same species. The nest was finished but no eggs had yet been laid and the birds were not to be seen.

The white-crowned sparrow (*Zonotrichia l. leucophrys*) was common in and about Bear Valley, but, on account of the bird's shyness and because of my lack of acquaintance at first with its song, I did not realize this until several days had been spent there. On June 13 a nest was discovered by accident and with considerable difficulty the proper identification made, the bird flushing before one was near the nest and darting away through weeds and brush in a very perplexing way. This nest was placed in a slight hollow on the ground in a patch of broad-leaved plants called locally "wild corn" (*Veratrum californicum*). These plants were very characteristic of the damper places about the edges of the valley and were much frequented by the white-crowned sparrows and the pileolated warblers. They had attained a height of about eighteen inches at this time and so made excellent retreats. Two other nests were found on June 15 and 17 situated in quite the same way, except that they were rather more on top of the ground than sunken into it. The one was in a patch of unidentified coarse-leaved herbage and the other in a thick mass of veratrum. One description will answer for all three nests. They were quite bulky, from six to eight inches in diameter outwardly and inwardly two and a half inches across and the same in depth. The materials used were weed-stems for the foundations and fine dry grasses with a few horse hairs for lining. Each nest contained four fresh eggs. The birds were shy in all cases and the nests could be located only by close search in such places as the experience in the first case had shown to be likely.

It may be worth while to record a nest of Lincoln sparrow (*Melospiza lincolni*) as neither Mr. Barlow nor Mr. Belding make a definite record for the central Sierras. A nest with three half-fledged young was found in a small and very wet meadow near Susie Lake, just off the Mt. Tallac trail, on July 2. It was placed in

a bunch of dead grass and composed of the same material and a few hairs. Both parents approached me closely while at the nest.

The disparity between the abundance of the thick-billed sparrow (*Passerella iliaca megarhyncha*) in the Big Trees region and the number of nests that one can note in a week's observation is very striking. One nest only was found, this being at Gardner, elevation 4800 feet on June 8. It was placed in a small cedar two feet above the ground and contained three eggs in which the incubation was almost completed. The nest materials used were stems, dry grass, and fine inner bark. The sitting bird was very tame and all but allowed me to touch her with my hand. The fact that the male kept close to the nest and sang lustily most of the time makes it all the more remarkable that the breeding habits of this species have been comparatively so little studied. We were compelled to leave Gardner before the eggs were hatched.

(To be concluded.)



MR. WILLIAM DUTCHER

We take pleasure in being able to publish the portrait of Mr. William Dutcher, chairman of the A. O. U. Committee on the Protection of North American Birds, and chairman of the National Committee of Audubon Societies. For a number of years Mr. Dutcher has been untiring and effective in his efforts to gain better protection for North American birds. His success, in the face of innumerable difficulties, is well known to all ornithologists and bird lovers. Mr. Dutcher's earlier work was especially concerned with the birds of Long Island, N. Y.

With this issue of THE CONDOR the series of portraits of American ornithologists will be discontinued. In the editorial column will be found an announcement of interest.

The California Sage Sparrow

BY JOSEPH GRINNELL

† *Amphispiza belli canescens* new subspecies.

SUBSPECIFIC CHARACTERS—Resembles *Amphispiza belli belli*, but size somewhat greater, and coloration throughout very much paler; resembles *Amphispiza belli nevadensis*, but size very much less, and coloration slightly darker.

TYPE—♂ adult; No. 5789, Coll. J. G.; Seymour Creek Meadow, 5500 feet elevation, Mount Pinos, Ventura County, California; June 27, 1904; collected by J. Grinnell.

DESCRIPTION—Lower surface white; sides, flanks and crissum faintly tinged with ochraceous buff, the former with narrow inconspicuous dusky shaft-streaks; sides of chest more distinctly streaked with slate; spot in middle of breast, submaxillary stripe, lores, region immediately beneath eyes, and extreme forehead, slate; spots above lores, one on forehead just back of culmen, eyelids, maxillary region and throat, pure white; rest of head, including auricular region, sides of neck and nape, clear gray; back and rump drab gray; middle of back with narrow dusky shaft-streaks; wings and tail blackish, strongly edged with pale clay color; outer web of outer tail-feather, and inner web of same for about 2 millimeters at tip, abruptly white.

MEASUREMENTS—

<i>A. b. nevadensis</i>	{ Wing	Av. 80.2	Max. 82.5	Min. 78.
6 ♂ ♂	{ Tail	Av. 81.2	Max. 85.5	Min. 79.
<i>A. b. nevadensis</i>	{ Wing	Av. 74.1	Max. 75	Min. 73.5
4 ♀ ♀	{ Tail	Av. 76	Max. 76.5	Min. 75.
<i>A. b. canescens</i>	{ Wing	Av. 71	Max. 73	Min. 69.
10 ♂ ♂	{ Tail	Av. 77	Max. 79	Min. 74.5
<i>A. b. canescens</i>	{ Wing	Av. 67	Max. 68	Min. 65.
7 ♀ ♀	{ Tail	Av. 73	Max. 75	Min. 71.
<i>A. b. belli</i>	{ Wing	Av. 67.8	Max. 71	Min. 65.
12 ♂ ♂	{ Tail	Av. 74.2	Max. 77.5	Min. 70.
<i>A. b. belli</i>	{ Wing	Av. 64.7	Max. 66.5	Min. 63.
13 ♀ ♀	{ Tail	Av. 71	Max. 73	Min. 68.

RANGE—The elevated Upper Sonoran and Transition sage valleys of the southern Sierras of California, slightly migratory to lower levels in winter. Specimens examined from: Piute Mts., northeastern Kern Co.; lower Cuddy Canyon, southern Kern Co., near Tejon Pass; valleys in immediate vicinity of Mt. Pinos, Ventura Co.; near Pine Flats, head of Tujunga Canyon, Sierra San Gabriel, Los Angeles Co.; San Fernando Valley, Los Angeles Co. (winter); Whitewater, Riverside Co. (winter).

REMARKS—This is the form which myself and others have repeatedly recorded from Los Angeles county as *nevadensis*. But that the two are altogether different is readily seen on comparison of the Los Angeles county specimens with true *nevadensis* from Nevada, Arizona, and the Colorado desert in southeastern California. (In the latter two localities *nevadensis* occurs only in winter.) Although *canescens* presents characters in the aggregate fairly intermediate between *belli* and *nevadensis*, the gap is so definite between *canescens* and *belli*, that were it not for current rulings being overwhelmingly against it, I should not hesitate to consider them specifically distinct. Each of the three forms occupies separate breeding areas. But in the mountains of Los Angeles county, as I have already noted (*Auk*, XV, Jan. 1898, p. 58), *canescens* (recorded as *nevadensis*) and *belli* doubtless breed within a very short distance of one another. This is also probable in Ventura county where Mr. O. W. Howard has taken several sets of eggs of the "sage sparrow" (*canescens*) in Lockwood Valley three to five miles southeast of Mt. Pinos. The fact that in the extensive series of *Amphispizæ* in the collection of the California Academy of Sciences, as well as among my own specimens, not a single intermediate is to be found between *canescens* and *belli* (or *canescens* and *nevadensis*, for that matter) argues for the distinctness of the forms. There is but one record that I can find of "intermediates" between *belli* and *nevadensis*. Dr. A. K. Fisher states in the Death Valley Report (N. Am. Fauna No. 7, May 1893, p. 98) that "the

specimens collected along the east slope of the Sierra Nevada [near Olancha, Inyo county] in Owens Valley are almost intermediate, both in size and color, between *Amphispiza belli* and *Amphispiza belli nevadensis*." Dr. Fisher cites the same instance later (*Auk*, XV, April 1898, p. 190) as an argument against my contention that *nevadensis* is a distinct species from *belli*. Through the courtesy of Dr. Fisher I have just been enabled to examine these specimens, and I find they are unquestionably referable to *canescens*, thus indicating the range of this form further northward. Their measurements are very slightly greater than those of my series of *canescens* previously presented, which points toward a possibility of interosculation between *canescens* and *nevadensis* still further north along the Sierras. But as I have already emphasized there is not yet the least evidence that *canescens* grades into *belli* geographically. This is the identical point of my contention in 1898, as above referred to; then I had specimens of *canescens* in hand, calling them *nevadensis* as labeled by an eastern authority. It is therefore only under protest that I use the combination *Amphispiza belli canescens*, instead of *Amphispiza nevadensis canescens*.

Notes From Flathead, 1904

BY P. M. SILLOWAY

ILLUSTRATED BY THE AUTHOR

IT had been reported to me by reliable observers that the varied thrush was nesting in the Flathead region of Montana, but I did not succeed in establishing the fact for record until this season. In the summer of 1903 I took adult specimens of the varied thrush (*Ixoreus naevius*) at Swan Lake, about eight miles from Flathead Lake, and in the same summer collected a young thrush at Flathead which evidently had been out of the nest about two weeks. In 1904, however, I succeeded in finding a nest of this thrush.

It came about in this way. Just across the Swan River from the University of Montana Biological Station there is a patch of undisturbed woodland used as a club ground for sportsmen. A road through this woodland is used daily by people who have settled in the neighborhood of the club grounds. Near the gate opening into the grounds is a by-path, along which I generally entered the grounds, as it is more shady and offered better facilities for collecting. Now on June 25, while passing along the woods road, I chanced upon a fledgling varied thrush which had left the nest but was yet unable to fly. I caught it with my hands as it hopped among the weeds at the edge of the woods. This event seemed quite singular to me, for the natives had told me that this thrush nests very early in the season; here was indisputable evidence, however, that the varied thrush was nesting in this particular piece of woods, and at a comparatively late time of the season. On July 5, I took another young varied thrush along the same road, near the place where I had taken the first specimen. This bird was flying about independently, though it was likely one of the brood to which the first belonged. Thinking that the varied thrush season for nesting had closed, I gave no time to looking for nests; and of course the nest was found by accident.

It was on July 12. On that day, instead of following the somber by-path, I entered the club grounds through the gate by the roadway. When scarcely

twenty yards within the grounds, my attention was attracted by a female varied thrush chirping in the lower branches of a large conifer. I lost no time in collecting her, and soon went on my way rejoicing; but something about her peculiar action, in sitting there chirping as she had done, set me to thinking. I went back to the place, and looking over the locality, found a nest in a scrubby fir about twenty feet from the roadside. The affair did not look promising, for it appeared to be an old nest of olive-backed thrush, though somewhat larger. The site was eleven feet from the ground, on a horizontal branch beside the main stem, a typical site for the olive-back. Upon climbing to it, I found three eggs in the nest. It was a bulky structure, having an external framework of coarse twigs, with thick walls of lichen, bark, and dried grasses. The lining was of fine dried grass, the cavity being three inches and three and one-half inches across in various directions, and one and seven-eighths inches deep. In preparing the eggs, I found them incubated 50 per cent or more. Later dissection of the female showed that the set was complete. After packing the eggs, I went back to the station, got an axe, cut down the tree, cut out the section containing the nest, and later photographed the nest in situ with the accompanying results.

The male had not yet appeared, and I waited. While cutting down the tree, I heard several peculiar, long-drawn whistles in different keys, and I knew that he was in the neighborhood. For a long time he hesitated to come near, but kept in the tree tops out of sight, still calling. At length I attempted to respond to his calls, and presently he flitted nearer, finally alighting over my head in a tree at the edge of the woods. His was a most unusual call, a plaintive though loud whistle, uttered singly, each call in a different key from the preceeding utterance, as if he were practicing various tones of the musical scale, though he appeared to strike only three or four different tones.

Several conclusions may be drawn from the finding of this nest. The fact is established that the varied thrush nests regularly as far eastward as Flathead Lake; it is also apparent that this thrush nests later than is generally supposed; and that under ordinary circumstances, after its first brood has left the nest, it hastens to rear another brood. Generally the nest-site is much lower than in the instance under consideration, according to the reports of native observers; and it was because of this I did not think of making such a find at the time. Later examination of the nest showed that the foundation and walls contained dried leaves and similar material which had dried in form, giving a solidity to the structure common to nests of other thrushes.

This season for the first time I found the Tennessee warbler (*Helminthophila peregrina*) at home. Near the station there is a large willow swamp, annually overflowed and usually inaccessible because of mosquitoes; but this season there was a pleasant lack of such pests, and I spent many hours with the birds in the swamp. On June 29 my attention was attracted by a new song. At a favorable opportunity I captured the songster. He spent most of his time in the top of the lower undergrowth and shrubbery, but when taken he was singing vigorously among the larger willows. It proved to be a new bird to my Montana list, easily identified. Another male was singing as it gleaned among the foliage of dogwood and willow saplings, but at that time I had no need for it. Soon several males were found to be frequenting that part of the swamp, each appearing to have his little area. On several occasions I followed a singing male entirely around his little domain, and in the course of my visits to the swamp I learned the particular locality each male frequented. The center of operations of each was a little open-

ing among willows where there was a mossy bog and several cottonwood trees, with tangled dogwood and other shrubbery surrounding the area.

On June 30 I spent most of the day watching the Tennessee warblers in this swamp. The males only were seen, and though I searched every bit of the area under observation and the shrubbery for many yards around the places, it appeared that I did not get near a nest, for the male would manifest no anxiety, merely moving farther away when I gradually drew nearer, and he would spend most of the time among the foliage. The songster would spend most of the time among the stems in the lowest foliage of the swamp, apparently at a level of five to ten feet from the ground.

The male Tennessee warbler is a most persistent songster, rivalling the red-eyed vireo in this respect. The song is very characteristic, as uttered by the different performers in various localities of the swamp. It can be expressed as follows: "Tuh wit, tuh wit, tuh wit, tzee tzee tzee tzee, chee chee chee chee chee chee



NEST AND EGGS OF THE VARIED THRUSH

chee chee chee chee," expanding in power to the close, as is usual with many warbler songs. In the three weeks that I spent, more or less, in searching the swamp for nests of this warbler, I did not hear any variations of the foregoing song, except perhaps some slighting of the opening syllables, or an omission of one or more of the "*chee*" in closing.

Sunday, July 3, was fair and warm, and I spent the forenoon in the swamp searching for warbler nests. On that day I saw the first female warbler. She came flitting in the medium-sized aspens, at the edge of one of the little openings, and was carrying a blade of dried grass in her mouth. As I had just then chanced on a nest of red-eyed vireo, I thought at first that I was dealing with the female owner of the nest. The little superciliary streak, of white lent color to the illusion; indeed, this warbler is not unlike a small pattern of the red-eyed vireo. When she saw me she dropped her burden and chirped rather feebly around me. A

male was singing nearby, though not so vigorously as usual while in that neighborhood. After chirping quietly near the place, the female fitted away and I saw her no more. I concluded that nest-building was then in progress, and decided to leave the warblers for awhile.

Two weeks later, while at the same place I had seen the female carrying her nest material, I engaged the attention of two warblers, a male and a female. During the hour I spent searching the shrubbery near the place, the two birds manifested much uneasiness, though chirping in their quiet fashion. I am as certain that there was a nest in the neighborhood as anyone can be without ocular demonstration, but I failed to find it, though I searched both among the dead leaves on the ground and every bit of bush within fifty yards of that place as a center. During all this period, from June 20 to nearly the end of July, the males were in song, and were only silenced by the parching heat of the sultry July afternoons. It seems perfectly safe to assume that this warbler nests in Montana in the Flathead region, and further observation will verify the assumption.

Lewistown, Montana.

Summer Birds of the Papago Indian Reservation and of the Santa Rita Mountains, Arizona

BY HARRY S. SWARTH

SOUTH of Tucson, Arizona, along the banks of the Santa Cruz River, lies a region offering the greatest inducements to the ornithologist. The river, running underground for most of its course, rises to the surface at this point, and the bottom lands on either side are covered, miles in extent, with a thick growth of giant mesquite trees, literally giants, for a person accustomed to the scrubby bush that grows everywhere in the desert regions of the southwest, can hardly believe that these fine trees, many of them sixty feet high and over, really belong to the same species. This magnificent grove is included in the Papago Indian reservation, which is the only reason for the trees surviving as long as they have, since elsewhere every mesquite large enough to be used as firewood has been ruthlessly cut down, to grow up again as a straggly bush.

Twice, at about the same season of the year, it has been my good fortune to spend a short time studying the birds of this region. The first time was in 1902, when Mr. O. W. Howard and I spent a week, from May 17 to 23, in the mesquites; while my second visit to the place was in 1903, when Mr. F. Stephens and I explored it pretty thoroughly during the first two weeks in June.

Leaving Tucson on the afternoon of June 3, we had ourselves and outfit driven to a spot about at the edge of the big mesquite forest, some ten miles from town, and less than a mile from the old San Xavier Mission. But little could be done that day beside getting some order in camp, and the first thing the next morning we went to call on Mr. Berger, the Indian agent, to whom we explained our aims and objects. He at once gave us permission to camp as long as we desired, and to make ourselves at home in every way; with the added request, however, that we refrain from shooting around the fields where the Indians were getting in hay. It seemed that some sportsmen (?) from town had on various occasions, in their reckless shooting, peppered the Indians with shot, a procedure to which Lo most unreasonably objected.

The first three days we devoted to exploring the mesquite forest, with most gratifying results. In the early morning the medley of bird songs was absolutely confusing, and the number of individuals of the many species found in this region, was far beyond what is usually the case in the lowlands of Arizona, where, although quite a variety of species may often be found, the conditions are not such as to support an abundance of animal life of any kind.

A little later several days were spent in investigating the secrets hidden in the giant cactuses. Just north of our camp was a steep, circular hill, apparently of volcanic origin, covered with loose, black boulders, and rising abruptly from the fertile valley, like an island from the sea, other similar ones, being irregularly scattered through the valley. Aside from some thin, straggly larrea bushes, and a few small cactuses, the only vegetable growth on the hill was the giant cactus (*Cereus giganteus*), with which huge plants the southern slope was thickly covered, there being none upon the opposite side. In working in the mesquites we were always in the shade, and did not suffer much from the heat, but out on this hill, exposed to the full glare of the Arizona sun, we found it impossible to work except in the early morning and late in the afternoon, being driven to shelter in the middle of the day. It is no joke to carry a twenty-foot ladder about on level ground, from one cactus to another, but on a steep hillside, stumbling over loose boulders, dodging cactus, and with the perspiration running in one's eyes, a person feels that he earns pretty nearly all that he succeeds in getting. The cactuses on this barren, unattractive looking hill were particularly rich in bird life, and one or two species were found that did not seem to occur at all out on the flat, open mesa, though the elf owls were probably more abundant in the latter locality.

On June 11, while miles from camp, Mr. Stephens and I were caught in a thunder shower. I suppose it is right to call it a shower, for it did not last many hours, but then the way in rains in Arizona it does, not need to continue many hours before the heavens are emptied. We plodded back, ankle deep in water, along roads where we had kicked up clouds of dust on starting out in the morning; and that night the river rose so, that, had not the banks been worn fifteen or more feet deep by previous similar occurrences, one camp would have probably been washed away, and we would have been obliged to take to the trees.

Two days later we left this place and started for the Santa Rita Mountains. All of one day we drove up the valley of the Santa Cruz, thirty miles or more, then, turning to the left, headed straight to the mountains, which we reached about noon of June 15. Our camp was pitched near the mouth of what appeared to be the best, almost the only, canyon of any size on the west side of the mountains. It was very broad, with widely extending slopes on either side, running up to a low saddle on the divide. The altitude at this point on the divide was 7400 feet, and at our camp 4500 feet. From the saddle, the mountain on the north ran up to a high granite peak, steep and nearly bare of vegetation, to an altitude of nearly 10,000 feet. Below the mountains the canyon continued in the shape of a deep, sharply defined ravine, extending for miles, but turning sharply to the south, so as to run nearly parallel with the range. This ravine was densely wooded with sycamore, oak, mesquite and other trees. The whole of the lower parts of the mountains were thickly covered with live oaks, and in the higher parts there was some, though not a great deal, pine timber. On the west side we found the mountains covered nearly everywhere with thick brush, and, in the higher parts, exceedingly steep and rough, so that it was impossible to travel in comfort anywhere but along the main canyon, and in one or two of its branches. In years gone by there was a great deal of timber taken out of these mountains, and traces

of the old roads used may still be seen in many places, though nearly overgrown with underbrush. At that time there seemed also to be a good deal of mining going on, and there were probably many people living in the mountains. Now they seem almost deserted except for a few wandering prospectors and hunters. In many places we found the remains of old adobe houses, and about three miles below our camp was the site of the old abandoned Fort Buchanan.

Under ordinary circumstances this should have been a place rich in bird life, and indeed Mr. Stephens found it so on a previous visit to the mountains in 1884, when he found several species then new to our fauna. We were much disappointed, however, in the great scarcity, both of birds and small mammals, the cause of which was not hard to surmise, for, for several years past the country had been suffering from a prolonged drought, the marks of which could be plainly seen in the numerous dead trees scattered along the cañons. The last winter, however, had left plenty of snow on the mountains, and the heavy rain storm that occurred just before we reached them started the streams running in good shape, so there was plenty of water in the mountains while we were there; but many species of birds that had been driven away by the dry weather had not yet returned to their old haunts, and others that should have been abundant were very scarce. One effect of the drought was to cause many birds to refrain from breeding altogether; for individuals were taken of many of the species found in the mountains, that had evidently not been breeding, nor showed any intention of doing so.

I have thought it best, the two localities being so entirely different, to make separate lists of the species seen along the Santa Cruz River, and in the Santa Rita Mountains. The first mentioned list is, I think, fairly complete, for I know of hardly any species that might be expected to occur in this region during the summer months that we failed to meet with. During the migrations it is different, for at such times there should be a great variety and number of birds found passing through this region. The river valley runs practically due north and south, and, presenting an abundance of food, water and shelter in a comparatively restricted area, with a barren, practically desert, country on all sides, it forms a natural highway, along which the majority of the birds passing through the region would naturally travel.

The list of the Santa Rita Mountain birds is anything but complete, for we explored but a small part of the range, under very unfavorable circumstances. Many species have been taken that we failed to meet with, and still others, not yet recorded from the range, will probably be found there later. Such notes as were made, however, present some points of interest, and I give the list for what it is worth.

BIRDS SEEN IN THE PAGAGO INDIAN RESERVATION

Ardea v. anthonyi. Anthony Green Heron. Several that were seen along the Santa Cruz River were probably breeding somewhere in the vicinity, though no nests were found.

Nycticorax n. naevius. Black-crowned Night Heron. Several seen in the same place as the last.

Callipepla gambeli. Gambel Partridge. Breeds in considerable numbers throughout the mesquite forest. Broods of young were continually being met with, most of the juveniles being about the size of sparrows, though able to fly, and presenting a curious appearance as they buzzed away in all directions through the trees, like overgrown bumble bees or beetles.

Zenaidura macroura. Mourning Dove. Quite abundant, but so overshadowed by the following species as hardly to be noticed.

— *Melopelia leucoptera*. White-winged Dove. The Sonora dove of the natives. By far the most abundant bird in the mesquite forest, and also the most conspicuous and noisy. Though not particularly gregarious, at least not at this time of the year, white-winged doves were to be seen in all parts of the forest though but seldom out on the mesa; and while rarely out of sight, they were never out of hearing. The coo of this bird has been aptly compared to the sounds produced by a young cockerel just beginning to crow, and while this conveys some idea of the gasping, choking, disconnected nature of the outcry, no description can do justice to the effect produced by the united effort of thousands at once. They were not quite so noisy toward noon, during the heat of the day, but the noise they made morning and evening was such as to almost entirely drown the notes of the other birds; after a little the continual rumble they made, forming, as it were, a sort of back ground to the other sounds, was hardly noticed by us, except when some performers started to tune up near at hand. Judging from the individuals I watched, it seemed to call for considerable physical exertion for them to discharge themselves of the music with which their souls were burdened.

A good many nests of this species were found, but nothing in proportion to the number of birds seen, and I am quite sure that the bulk of them were not breeding at this time. Many specimens of both sexes were taken that certainly were not. The nests were usually built rather low down, from five to twenty feet above the ground, generally below fifteen feet; and apparently with no attempt at concealment. When the female was flushed from the nest she usually fluttered away, simulating a broken wing, as the mourning dove does. Unfinished nests were found, and others containing young nearly ready to fly. Male birds, presumably, were occasionally seen circling about with wings and tail rigidly outspread, as the band-tailed pigeon does in the breeding season; but I never heard them make any such peculiar noise as the larger bird does at such times.

— *Columbigallina p. pallescens*. Mexican Ground Dove. Fairly abundant about the cultivated fields and in the pastures, and also in the more open places in the mesquites. None were seen in the thicker parts of the forest. The curious note so out of proportion to the size of the bird was occasionally heard, but not often, as they had not yet commenced to breed. They were usually found in small bunches of four or five, often whirring up from the grass or weeds in nearly as startling a manner as so many quail. It is rather singular that while quite a good many of the Inca dove (*Scardafella inca*) were seen about the streets of Tucson, and in corrals and gardens, not a single one was met with anywhere outside of the town.

Cathartes aura. Turkey Vulture. Seen flying about overhead occasionally.

Accipiter cooperi. Cooper Hawk. In May, 1902, Mr. O. W. Howard and myself secured two sets of eggs of this species in this region. On my second visit to the mesquites none of the birds were seen, though there were probably some about for all that.

— *Parabuteo u. harrisi*. Harris Hawk. On May 23, 1902 I vainly pursued an individual of this species that lit on a tree near our camp. It was the only one I saw in this region.

Buteo b. calurus. Western Red-tail. One or two seen. A few nests of this species were seen on limbs of the giant cactuses on the mesa, but I think they are far more abundant along the base of the Santa Catalina Mountains, on the other side of the valley.

Buteo swainsoni. Swainson Hawk. One or two seen along the Santa

Cruz River, probably after lizards or frogs. They breed out on the open mesa, but do not seem to do so in the thick woods.

- *Asturina plagiata*. Mexican Goshawk. On June 4 a set of three, and on June 11 one of two eggs were secured. In the third week in May, 1902, Mr. Howard and I secured five sets of three eggs each in this same place. All the nests found were in the largest mesquites, built from forty to fifty feet from the ground, one that we measured being just forty-seven feet. Five of the birds were secured; the stomach of one contained some very young doves, apparently taken from the nest, another contained the remains of a quail, and the others held some large lizards. Those secured were all alike in the ordinary adult plumage, but two others were seen, possibly birds of the previous year, with longitudinal instead of transverse markings on the lower parts; and the female from which the set of two eggs was taken, was of a brownish coloration, so much darker than the others that at the first glance we were uncertain whether or not she was a Cooper hawk. They were rather noisy birds and could often be heard screaming as they flew about over the tree tops.

Falco s. phalæna. Desert Sparrow Hawk. Common; breeding in giant cactus. In one hole young about ten days old were found, which, with claws and lungs, vigorously entered their protest at being handled.

- *Polyborus cheriway*. Audubon Caracara. Though not observed on the reservation, while we were returning from the Santa Ritas, on June 28, a single individual of this species was seen near the Santa Cruz River, feeding on some carrion in company with a number of turkey buzzards.

- *Megascops a. cineraceus*. Mexican Screech Owl. A single specimen was secured by Mr. Stephens, though others were heard hooting every evening. They breed in the giant cactus.

- *Bubo v. pallascens*. Western Horned Owl. Two were seen in the mesquites, but not secured.

- *Micropallas whitneyi*. Elf Owl. This interesting little owl is so entirely restricted to the giant cactus, in the cool depths of which he finds a comfortable summer home when everything outside is fairly sizzling with the heat, that in the breeding season, at least, it is almost useless to seek for them elsewhere. I have seen an odd bird or two in other places, and was with Mr. Howard when he secured a set of eggs from a hole in a mesquite tree, but such individuals are but the merest stragglers from the hundreds that occupy the cactuses on the surrounding mesa. Mr. Stephens and I were too late for them and secured but a single set of eggs, but a great many young of all ages were found in the holes examined.

The elf owl seems to be strictly nocturnal, and, when turned loose in the glaring sunlight, they were singularly helpless, in striking contrast to the little pigmy owl, which, in general appearance, they resemble so much. Judging from an examination of the contents of the stomachs of about twenty of the birds, I should say that they were entirely insectivorous in their diet, as nothing but the remains of beetles and other insects were found.

Geococcyx californianus. Roadrunner. A few were seen in the mesquites.

Coccyzus a. occidentalis. California Cuckoo. This species was more common in the mesquite forest than I have ever seen it anywhere else. As usual the birds were hard to see in the shrubbery, though we occasionally caught sight of them crossing from one side of the river to the other; but their peculiar notes could be heard everywhere we went, and sometimes around the camp three or four could be heard calling at once. Some of the females secured had evidently laid part of their sets, but we were unable to find any nests.

- *Dryobates s. bairdi*. Texan Woodpecker. Quite common in the big mesquites.
— *Centurus uropygialis*. Gila Woodpecker. The curious querulous note of this woodpecker could be heard everywhere in the mesquite forest, and many were found breeding in the giant cactus as well. Several nests full of half grown young were found in the latter locality.

Colaptes c. collaris. Red-shafted Flicker. A very few individuals of this species were seen in the big mesquites.

Colaptes chrysoides. Gilded Flicker. This is another species that appears to be restricted entirely to the giant cactus during the breeding season; a very few were seen in the mesquites, but not many, and no nests were found in that locality.

The unfortunate flickers seem to have a big contract forced upon their hands, for they undoubtedly furnish most of the nesting sites occupied by the many species that have come to look upon the big cactus as their natural summer home. The Gila woodpeckers do some of the work, no doubt, but they breed in other trees more than in the cactus, and on the flickers fall most of the labor, needed to supply the sparrow hawks, owls, flycatchers, and others, with safe retreats. Of course the work is not as hard as chopping into hard mesquite or oak trees, but still if the cactus is as yielding, and yet clinging to their bill, as it is to the collector's hatchet, they are by no means to be envied their job.

It is rather curious that, breeding close together, as *C. chrysoides* and *C. c. collaris* do in southern Arizona, more hybrids between the two are not found. I have seen but one. This bird, a male taken at Tucson, appears to be a true hybrid between the two species. It is about the size of *chrysoides*, and in general coloration is darker than that species, but appreciably paler than *collaris*. There are no bright yellow feathers in either tail or wings, but in all the quills the red has a very washed out appearance, being much paler, more of a brick red, than is ever the case with *collaris*. In southern California, birds with more or less yellow in wings and tail are of fairly common occurrence, but I think that in all such cases it is due to internixture with *C. a. luteus*, as indeed is shown in most cases by more or less distinct traces of the red nuchal crescent, of which there is no sign in the bird mentioned above.

In the mountain regions of Arizona, where *collaris* breeds quite commonly, I have never seen *chrysoides*, nor do I know of any instance of the former species breeding in the giant cactus. As noted above, I saw a few red-shafted flickers in the mesquites along the Santa Cruz river, where they were probably breeding; and it seems strange that we should find the two species breeding almost side by side, practically without mixing, when we consider the extensive hybridization that takes place in the northwest, where *collaris* and *luteus* come together.

Phalænoptilus nuttalli. Poor-will. Frequently heard calling in the evenings, usually on the rocky, cactus-covered hill near the camp.

Chordeiles a. texensis. Texan Nighthawk. Very abundant, though not seen in the thick woods. They undoubtedly bred in the vicinity, but though many were flushed from the ground, no eggs were found.

Aeronautes melanoleucus. White-throated Swift. Occasionally seen flying overhead, having probably strayed down from the Santa Catalina Mountains.

Trochilus alexandri. Black-chinned Hummingbird. A few were seen along the Santa Cruz River, no other species of hummingbird being observed anywhere in the vicinity.

Tyrannus verticalis. Arkansas kingbird. Breeds around the edges of the mesquites and in the cottonwoods around the cultivated fields. I thought I saw *vociferans*, as well, once or twice, but could not make sure.

- + *Myiarchus m. magister*. Arizona Crested Flycatcher. On the cactus covered hill north of our camp we found this species breeding quite abundantly, though none were seen out on the flat mesa; and had we remained in our camp in the mesquites, scarcely five hundred yards distant from the hill, I doubt if we would have known there were any of the birds around, so closely did they stick to their barren hillside. The birds were exceedingly noisy and quarrelsome, but very wary and hard to get a shot at, sitting at a safe distance when their nest was robbed, and uttering continually their loud, harsh call. Some eight or ten nests were examined, all very much alike. The cavities were all from fifteen to twenty-five feet from the ground, and I doubt that we found any nests more than half way up the hill. Most of the species occupying the cactuses were found nearer the base than the summit of the hill. The nests were all very much alike, being composed mainly of hair taken from dead horses and cattle, and smelling vilely. Usually there were pieces of snake skin in the nests, and occasionally a mummified owl or woodpecker underneath. The number of eggs in a set ranged from three to five.
- + *Myiarchus cinerascens*. Ash-throated Flycatcher. Breeds fairly abundantly in the mesquites. I have also found it nesting in the giant cactus, but not in any numbers.
- Empidonax traillii*. Traill Flycatcher. Seen and heard in the mesquites along the river.
- Pyrocephalus r. mexicanus*. Vermilion Flycatcher. A common and conspicuous species, breeding everywhere in the mesquites.

(To be concluded.)

A New Code of Nomenclature

DURING the latter part of the fall semester of 1904, President Jordan of Stanford University delivered a series of lectures on nomenclature before the faculty and graduate students of the biological departments. After an introductory talk on the history of nomenclature, he devoted the remaining lectures to a discussion of the principles and canons of the A. O. U. Code. On several important points Dr. Jordan took issue with these. It is fortunate for students in general that Dr. Jordan's wide practical experience with knotty problems in nomenclature is to be embodied in a new code, which will shortly appear under the joint authorship of Doctors Jordan, Evermann, and Gilbert. Dr. Jordan has kindly allowed me to make extracts from the manuscript, in advance of the regular publication.

There are thirty canons in the new code, several of the A. O. U. canons having in many cases been condensed into one. These are followed at the end by short notes. Most of the canons of the A. O. U. code are now very generally accepted and need no explanation. I have made extracts only where the new code differs materially from that of the A. O. U. The paper is entitled "NOMENCLATURE IN ICHTHYOLOGY. A PROVISIONAL CODE BASED ON THE CODE OF THE AMERICAN ORNITHOLOGISTS' UNION."

"The recent preparation of numerous papers in systematic ichthyology has necessitated the reconsideration of many problems of zoological nomenclature, and as some of these are not covered by any canon in any recognized code, and again, as certain canons in the best considered of the various codes of nomenclature, that of the American Ornithologists' Union, are not available in the study of fishes, we have ventured to draw up a code for our own use in ichthyology.

"The value of a code depends not on the authority behind it, but solely on its simplicity, usefulness, and naturalness. Formal agreements among groups of authors are always marked by compromises in which fitness and exactness are more or less sacrificed in the interest of unanimity of action. These compromises one and all are discarded in the progress of science.

"The present statement represents therefore solely the present practice of the present authors. No one else is bound by it, and they will not be bound in the future in any case in which they find reason to believe that their present views are faulty.

"The different canons in this code are based on those composing the code of the American

Ornithologists' Union, and so far as possible the language of that admirable document has been followed.

"We have, however, omitted certain matters which may be considered as self evident, and we have omitted all references to groups of higher than family rank. This has necessitated a change in the numbering of the different canons."

Canon VI of the new code differs from XVII of the A. O. U. chiefly in being simpler. "Preference between competitive specific names published simultaneously in the same work, or in two works of the same actual or ostensible date (no exact date ascertainable), is to be decided as follows:

"Of competitive names otherwise tenable, given by the same author, that one is to be preferred which stands first in the text. In case of competitive names otherwise tenable, given by different authors of the same actual date so far as ascertainable, the one standing on the earlier page in its publication must be chosen. [NOTE.] The sole end of laws of nomenclature is that of fixity, and this is to be ensured only by the elimination among names once printed, of all element of choice by later authors. Even among twins, the laws of primogeniture recognizes one as first born. So with names on the same page.

"Canon VII. [Compare A. O. U. XVIII] In case of competitive generic names otherwise tenable, published simultaneously in the same work, preference shall be given to the one standing first in the work. Of competitive generic names of the same actual or ostensible date (no exact date being ascertainable) given by different authors, that one is to be taken which is proposed on the earlier page of the volume in which it appears. When the same generic name is given to two distinct genera of animals at the same date (as far as ascertainable), the name appearing on the earlier page shall be deemed to have precedence."

Canon X differs widely from the A. O. U. rulings. Compare with XXI, XXIII. "The type of a genus can be indicated by the original author only. This may be done by direct statement that a certain species is a type species, the leading species, the "chef de file," or by other phraseology conveying the same idea; it may be indicated by the choice of a Linnæan or other specific name as the name of a genus, or by some statement which shall clearly indicate an idea in the author's mind corresponding in fact, if not in name to the modern conception of the type of a genus. The type of a Linnæan genus must be, in the phraseology attributed to Linnæus, 'the best known European or official species,' included by that author within that genus.

"In every case, the determination of the type of a genus shall rest on evidence offered by the original author, and shall be in no wise affected by restrictions or modifications of the genus in question introduced by subsequent authors, nor shall the views or the dates of subsequent authors be considered as affecting the assignment of the type of a genus. [NOTE.] It is believed that the principle that a generic name must be fixed by its original author is one of vital importance in nomenclature. All processes of fixing types by elimination or by any other means resting on subsequent literature, lead only to confusion and to the frittering of time on irrelevant questions. The method of elimination cannot be so defined as to lead to constant results in different hands. In general it is much more difficult to know to what types subsequent authors have restricted any name than to know what the original author would have chosen as his type. Most early writers who have dealt with Linnæan species have consciously or unconsciously encroached on the Linnæan groups rather than made definite restrictions in the meaning of the generic names.

"Canon XI. [Compare with A. O. U. XXIV] In case a genus requiring subdivision or modification contains as originally formed more than one species, and the author of the genus does not in any way clearly indicate its type, the first species named in the text by the author as certainly belonging to this genus shall be considered as its type. [NOTE.] It can never be unjust to an author to regard his first named species as his type, and it can never lead to confusion to let the genus stand or fall with this first species. The same remark applies to composite species.

"Canon XVII. [Second paragraph] As a name is a word without necessary meaning, and as names are identified by their orthography, a generic name (typographical errors corrected) is distinct from all others not spelled in exactly the same way. Questions of etymology are not pertinent in case of adoption or rejection of names deemed preoccupied. [NOTE.] This canon prohibits change of names because prior names of similar sound or etymology exist. It permits the use of generic names of like origin but of different genders or termination to remain tenable. All manner of confusion has been brought into nomenclature by the change of names because others nearly the same are in use. Thus the Ornithologists' Union sanction the cancellation of *Eremophila* because of the earlier genus *Eremophilus*, of *Parula* because of the earlier *Parulus*, and of *Helminthophaga* on account of *Helminthophagus*. On the other hand, *Pica* and *Picus* are allowed. In ornithology this matter has been handled by a general agreement on the relatively

few cases concerned. But in other groups, the matter is by no means simple, and every degree of similarity can be found. Thus the genus *Cantherinus* is preceded by *Acanthorhinus*, a correct rendering of the same etymology; *Canthidermis* by *Acanthoderma*, also a correct form of the same word; *Thymallus* is preceded by *Thymalus*, *Lyopsetta* by *Liopsetta*. Rafinesque changes *Hiodon* because it sounds too much like *Diodon*; *Trachidermis* has been altered on account of its resemblance to *Trachyderma*, *Ateleopus* on account of its resemblance to *Atelopus*.

"Between forms like *Pachynathus*, antedated by the correctly spelled *Pachygnathus*, and *Aplodontia*, antedated by the more correct *Haplodon*, and *Aplodon*, every sort of case may be found. If all names are regarded as different unless spelled alike, these matters offer no difficulty. Any other view gives no assurance of stability."

Although there are several other points of difference of a very minor nature, I shall close this short abstract with the following well-considered canon, a portion of which, as will be seen, departs considerably from present usage in ornithology and mammalogy.

"Canon XXIX. The authority for a specific or subspecific name is the first describer of the species or subspecies. A name adopted from manuscripts should be ascribed to the person indicated as author in the original publication, whether this person be the author of the memoir in which the name occurs or not. * * * [NOTE] This canon deprecates the practice of ascribing to the author of a paper descriptions and names furnished him in courtesy or otherwise by some other author. If a writer ascribes one of his species to some one else, we must take his word for it. Thus the manuscript species of Kuhl and VanHasselt in the Museum of Leyden, although printed by Cuvier and Valenciennes, should be ascribed to Kuhl and Van Hasselt."

W. K. FISHER.

EDITORIAL NOTES

ALTHOUGH THE CONDOR can hardly be classed among "popular" journals (at least the business manager does not believe his accounts will justify such a view), nevertheless a word or two concerning the coming year may be of interest to club members. Our magazine corresponds to the "proceedings" of some scientific societies and consequently depends almost wholly upon the efforts of the club members. It is manifestly impossible, therefore, to provide an array of special features in advance, nor is it at all desirable to do so. The special features always depend upon the efforts of the editor and in so far as they occupy the body of the magazine they crowd out contributed material. There is an element of danger also, that if too much is provided in advance the members may tend to lose their sense of responsibility.

During the past two years we have published a number of portraits of American ornithologists. The series has been very incomplete, in some cases because we could not secure the necessary photographs and consent, but mostly on account of scarcity of room and funds. As noted on another page this series will be discontinued for the present. Beginning with the March-April issue we will commence a similar series of portraits of eminent European ornithologists, publishing from two to four photographs in each number. So far as we are aware this has never been attempted before. It should prove a feature of exceptional value to everyone interested in the personal and historical sides of ornithology. In an early issue, also, will appear a facsimile page of manuscript from the pen of Prince Charles Lucian Bonaparte. Mr. Emerson will relate something concerning its history and the rather dramatic manner in which it came to light.

Inasmuch as it is well-nigh impossible to prognosticate just what the coming year has in store for the readers of THE CONDOR, the contents of this volume upon which we are now entering must be gauged largely by the standard of that just completed. So far as the name of an author is an index to the standard—and it is a good index we believe—we take pleasure in announcing in advance the following contributors to volume seven: Florence Merriam Bailey, Vernon Bailey, Lyman Belding, Herman T. Bohlman, Herbert Brown, William Lovell Finley, A. K. Fisher, Louis Agassiz Fuertes, Joseph Grinnell, Rev. S. H. Goodwin, Henry B. Kaeding, Leverett Mills Loomis, Joseph Mailliard, Edgar A. Mearns, E. W. Nelson, Harry C. Oberholser, Wilfred H. Osgood, William W. Price, P. M. Silloway.

As a special message to members of the club let us again remind them that the interest and value of a publication such as THE CONDOR must always depend upon the representative charac-

er of the list of contributors, in other words upon the members' full and active cooperation. They must be the principal supporters of the enterprise. An editor is, unfortunately, a necessary evil, but he cannot be expected to undertake responsibilities which rightfully belong with the club at large. In other words it is desirable that the members furnish the editor with a large assortment of articles, that he may be less limited in his choice of material. The editor is a clearing-house for all sorts of complaints. One coterie of readers loudly calls for "popular articles" (whatever that may mean) while another and smaller circle prefers the more serious material. The only criticism we are lead to make is that, in the past, the table of contents might have been more varied in several instances had our opportunity for choice been less limited. We consequently request all to unite and do their little toward improving the magazine. Parenthetically, we desire to ask those who are not accustomed to write for publication to be brief, to the point, and to preserve a reasonable unity. It is frequently necessary to condense articles, owing to the exigencies of space, and it is not always possible to give anesthetics before applying the blue-pencil.

There is just one feature of *THE CONDOR* for the coming year which merits special mention, that is, the illustrations. We consider that we have been very fortunate in securing the cooperation of Mr. William Lovell Finley and Mr. Herman T. Bohlman of Portland, Oregon, who will contribute to each issue. Mr. Bohlman's photographs of western birds are of exceptional merit, and rank with the best that have ever been secured. Indeed, considering the difficulties which were overcome in many instances, his best work has been seldom equalled, judging solely from published results.

AT PRESENT there is a lively interest in "nature photography" and especially in photographs of wild animals. Of late years hunting with the camera has come to be considered one of the most satisfying of sports. It is certainly the most difficult to prosecute successfully. Almost any one is able to shoot birds, or even large game, but there are relatively few who possess patience and alertness sufficient to capture the same creatures with a camera. Photographs of birds are of greatly varying values from the rigidly scientific standpoint. But nearly all are beautiful, and excite our admiration for one reason or another. Probably the most valuable photographs are those which show *clearly* some fact of the bird's life history or especially elucidate the creature's relationship with its environment. Occasionally a portrait of a bird may be very beautiful to look upon, and yet when analyzed may show nothing more than the life habit. This of course is desirable knowledge, but scarcely so important as the life history. Figures of nests are likely to be disappointing unless carefully taken.

Usually the most valuable pictures are the most difficult to procure. Those who have never attempted to photograph a live bird, especially a shy one, know little of the nerve-racking work which was necessary to secure the better photographs published during the past few years. The general reader is likely to glance casually at such an illustration without taking in what it really represents beyond face value. It has been no uncommon thing for Mr. Bohlman and Mr. Finley to risk life and limb in tall trees, or on cliffy rocks off the Oregon coast. The same experience has been shared by nearly all of the more daring photographers. Every ornithologist knows of the cliff performances of the Kearton brothers. Let the reader, for example, pause a moment to consider the risk and work necessary to secure the admirable series of photographs illustrating the growth of the red-tailed hawk, published in this issue. Was there ever a form of hunting that could compare with this? Or, considering the trouble, has a filcher of hawk or eagle eggs in recent years such a contribution to offer as this series of photographs. It may be difficult to climb one hundred and twenty feet to secure two egg shells for a plethoric cabinet. It is vastly more difficult and worth while to secure such photographs. As a "gold-cure" for acute cases of the "egg habit" we cordially recommend the camera.

IS THERE growing in the minds of some ornithologists an intolerance for the efforts of the obscure beginner, or for the work of the amateur "without proper connections"? During the past two years we have seen in several places hints at such a sentiment which has recently found utterance in a very unqualified form. On page 181 of December *Bird-Lore*, Ernest Thompson Seton says: "The experts of our museums are the only ones who should be allowed to collect bird skins today. It is safe to say they will not abuse the privilege. Knowing the value of birds as they do, better than any other class of men, they are not likely to take the life of a sparrow, even, without a very sufficient justification." Shades of Audubon and Coues! Whither, pray? This approaches pretty near the "limit"! We would like the serious ornithologist to consider, for a moment, the first sentence. The second would be important if not partially vitiated by evidence to the contrary. The third, unfortunately, has its exceptions. Possibly they prove the rule. We must remember that, as in the past so in the present, a very large proportion of original ornithological knowledge is being contributed by persons who

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EDITORIAL NOTES

(Continued)

have no connection whatever with museums or institutions of any sort. Examine the list of field ornithologists who contributed to Bendire's "Life Histories." Few are of the class Mr. Seton would endow with special privileges. Scan the last volume of *The Auk*. What proportion of articles are contributed by men connected with museums as compared with those who are not! Practically all the ornithologists west of the Mississippi would go out of commission if this sentiment prevailed. With legitimate bird protection we have perfect and unqualified sympathy, but we have little patience with the wild flights of ultra-enthusiasts.

As we hinted above this idea is not new by any means. It has come from high places and is having a little effect on the younger generation. If the discouragement of the gun leads to a closer study of the life histories, well and good, but practical experience teaches that the gun should not be abandoned, as is so often advocated. The substitution of "total abstinence" for the old time method is likely to have one serious result, which is already being slightly felt. It favors a growth of the rankest sort of dilletantism; and if the "new and proper" tendency is to prevail will we not in time have the serious ornithologist giving way to what Dr. Coues might have termed a "superficial ornithophile"? Of course we do not favor that every Thomas, Richard, and Henry shall be allowed unlimited freedom with firearms but we do think the unconsidered condemnation of the gun about a century premature.

Owing to demands on available space it has been necessary to omit several pages of reviews which were intended for this number, as well as the usual "From Field and Study," and the directory of club members. The last two, at any rate, will appear in March. We regret having been obliged to publish Mr. Keyes's ar-

ticle in two portions, but the concluding installment will be in the next issue. The same is true for Mr. Swarth's paper. Indeed we have been so crowded this month that the title page for volume VII must be deferred till November. Last year we printed it as a part of the first issue. Prof. Cooke's article was read at the twenty-second Congress of the A. O. U., November 29th.

It is not a pleasant task to be continually harping on the money question but the printer, unfortunately, has to pay his help. Considering the excellent work that he is now turning out, club members should make it a matter of pride to be prompt with dues. The same remark applies to subscribers, who are receiving THE CONDOR at bare cost price. We would have no occasion for these observations had not the business manager sent us recently a pitiful wail concerning editorial extravagance, ending with the assertion that he could not collect funds as fast as we are determined to spend them. He further assures us that money is coming in slowly. If the members and subscribers wish us to maintain the present standard they will have to do their part. Besides, pity the business manager; his is a hard lot, managing an extravagant editor.

There is no reason why we should not have 400 members as well as 225, our present number. If every member would send us one name the trick could be done in a jiffy. The growth of the club is due to the alertness of about 15 people. That all the bird people in the west are not enrolled in very evident. *Will not every member who reads this make a resolution to send us one new name before the March meeting?* It is very easily done, and will mean a better magazine and a larger one.

Friends of the California Academy of Sciences will be glad to know that the amendment to the Constitution of California exempting the institution from taxation received about 11,000 majority of favorable notes. The exact figures are: for the amendment, 73,207; against, 62,275.

The annual dinner, announced in the last issue, was held at Jules's Restaurant, 315 Pine St., San Francisco, January 14, at 7 P. M. An account of the meeting will appear in the next issue.

Messrs. Joseph Mailliard and Joseph Grinnell spent a portion of the Christmas holidays ornithologizing near Victorville, California.

Mr. William L. Finley gave two lectures illustrated with lantern slides at the meeting of the A. O. U. in Cambridge. Mr. Finley is now at Santa Monica.

Members who notice errors in their address will do well to send a card of correction before the publication of the directory in the next number.

A remarkable series of flamingo photographs and a very interesting article are contributed to the December *Century* by Mr. Frank M. Chapman, a member of the Cooper Club and Editor of *Bird-Lore*.







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